

250	RADIO AND MICROWAVE ABSORPTION WAVEMETERS	286	.Ion beam pulsing means with detector synchronizing means
251	ELECTRICALLY NEUTRAL MOLECULAR OR ATOMIC BEAM DEVICES AND METHODS	287	..With time-of-flight indicator
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253	GEOLOGICAL TESTING OR IRRADIATION	289	.With evacuation or sealing means
254	.With drill or drilling	290	.Cyclically varying ion selecting field means
255	.With sampling	291	..Circular ion path
256	.Well testing apparatus and methods	292	..Laterally resonant ion path
257	..With casing collar detection	293	..Alternating field ion selecting means
258	..By interface of fluids	294	.Static field-type ion path- bending selecting means
259	..With placement of tracer in or about well	295	..With variable beam shifting field means
260	...Tracer being or including radioactive material	296	..Plural diverse-type static path-bending fields
261	..With detector or detector circuit control	297	...For causing complex ion path
262	..With particular detector signal circuit	298	..Magnetic field path-bending means
263	...With detector signal modulation or carrier wave	299	...With detector
264	...Having plural detectors	300	....With detector control or regulating
267	..With radiation control to detector	301	METHODS OF DETERMINING OIL PRESENCE, CONTAMINATION OR CONCENTRATION
268	..With well-engaging means	302	RADIATION TRACER METHODS
269.1	..With source and detector	303	.Radioactive tracer methods
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269.8With detection in plural consecutive time intervals	310	.Electron probe type
265	..Plural detectors	311	.Electron microscope type
266	..With spacing or direction of detectors	440.11	.Analyte supports
271	CODED RECORD AND READERS; INVISIBLE RADIANT ENERGY TYPE	441.11	..With air lock or evacuation means
281	IONIC SEPARATION OR ANALYSIS	442.11	..With object moving or positioning means
282	.Methods	443.1	..With heat transfer or temperature-indication means
283	.With collection of ions	315.3	SOURCE WITH CHARGED PLATE-TYPE DETECTOR
284	...For material recovery	316.1	WITH INFRARED OR THERMAL PATTERN RECORDING
285	.With plural, simultaneous ion generators	317.1	.Thermal copying of documents
		318	..With image transfer device

319	..With conveying means	339.09	....With calibration steps in measurement process
324	CORONA IRRADIATION	339.1	....Determining moisture content
325	.Charging of moving object	339.11	....Measuring infrared radiation reflected from sample
326	.Charging of objects	339.12	....Using sample absorption for chemical composition analysis
580	SOURCE WITH RECORDING DETECTOR	339.13	....With gaseous sample
581	.Using a stimulable phosphor	339.14	...Detecting infrared emissive objects
582	..With image recording	339.15	...Sensing flame or explosion
583	...For specialized application	340	..Methods
584	..With image read-out	341.1	...With irradiation or heating of object or material
585	...Including stimulation	341.2	....Including probe
586	...Including emission detection	341.3	....Including polarizing means
587	....With adjustment of conditions	341.4	....With semiconductor sample
588	..With erasure	341.5	....With calibration
589	..With conveyance	341.6	....Heating of object or material
590	...With a recirculation path	341.7	....With multiple sources
591	.Including a light beam read-out	341.8	...Measuring infrared radiation reflected from sample
328	AUTOMATIC/SERIAL DETECTION OF SIMILAR SOURCES	342	...Locating infrared emissive objects
329	RECORD PROJECTORS	343	..With means to transmission-test contained fluent material
330	INFRARED-TO-VISIBLE IMAGING	344	...Plural series signalling means
331	.Including liquid crystal detector	345	...Plural beam/detector pairs
332	.Including detector array	346	....Plural temperature sensitive signalling means
333	.Including image tube-type detector	347	..With movable beam deflector or focussing means
334	.Including means for scanning field of view	348	...Controlled by signalling means
335	CLOUD OR BUBBLE CHAMBERS	349	..Plural signalling means
336.1	INVISIBLE RADIANT ENERGY RESPONSIVE ELECTRIC SIGNALLING	350	...With periodic beam varying means
336.2	.Superconducting type	351	..With periodic beam varying means
337	.With heating of luminophors	352	..With temperature modifying means
338.1	.Infrared responsive	353	..With beam deflector or focussing means
338.2	..Ferroelectric, ferromagnetic, photomagnetic types	354.1	.Signalling means controls incident radiation
338.3	..Pyroelectric type	356.1	.Flow metering
338.4	..Semiconducting type	356.2	..Using radioactive tracer
338.5	..With means to analyze uncontained fluent material	357.1	.Fluent material level signalling
339.01	..With selection of plural discrete wavelengths or bands	358.1	.With means to inspect passive solid objects
339.02	...Including detector array	359.1	..Rectilinearly moving object
339.03	...Including temperature control means	360.1	..With relative movement means
339.04	...Including temperature determining means	361 R	.With or including a luminophor
339.05	...With additional noninfrared wavelengths	362	..Methods
339.06	...With radiation source		
339.07	....Including spectrometer or spectrophotometer		
339.08	.....Including Fourier transform infrared spectrometry		

363.01	..With radiant energy source	381	...With radioactive source
363.02	...Body scanner or camera	382	..With means to ionize the gas
363.03	....With positron source	383	...Emissive fluent type, or with transmissive fluent material
363.04	....Emission tomography	384	...Radioactive
363.05	.....With detector support	385.1	..Plural chambers or three or more electrodes
363.06	....Using coded aperture	385.2	...Spark chambers
363.07	....With distortion correction	386	..With a periodic electrode bias varying means
363.08	....With detector support	387	..With periodic electrode bias supply
363.09	....With calibration	388	..With indicator
363.1	....With a collimator	389	..Including ionization means
364	...With fluent source handling or collecting means	390.01	..Neutron responsive means
365	...Ultraviolet light source	390.02	..Radiographic analysis
366	..Plural electric signalling means	390.03	..With dose measurement
367	..Plural or composite luminophor	390.04	..Composition analysis
368	..With optics	390.05	...For moisture content
369	..With output system	390.06	..Density/thickness/consistency analysis
361 C	..Chemiluminescent detection	390.07	..Spectrum analysis
370.01	..Semiconductor system	390.08	...Using time-of-flight spectrometers
370.02	..Alpha particle detection system	390.09	...Using diffractometers
370.03	..Fission fragment/fissionable isotope detection system	390.1	..Including beam control
370.04	..Self-powered system	390.11	..Including a scintillator
370.05	..Neutron detection system	390.12	..Position-sensitive
370.06	..Discrimination-type system	391	..Methods
370.07	..Dose or dose rate measurement	392	..With indicating or recording means
370.08	..Imaging system	393	..With radiant energy source
370.09	...X-ray or gamma-ray system	394	..Plural signalling means
370.1	..Position sensitive detection system	395	..Methods
370.11	..Scintillation system	200	PHOTOCELLS; CIRCUITS AND APPARATUS
370.12	..Of material other than germanium, diamond, or silicon	201.1	..Photocell controls its own optical systems
370.13	...Containing cadmium telluride	201.2	..Automatic focus control
370.14	..Particular detection structure (e.g., MOS, PIN)	201.3	...Of a microscope
370.15	..Temperature control or compensation system	201.4	...Active autofocus
371	..Methods	201.5	....With optical storage medium; e.g., optical disc, etc.
372	..Ultraviolet light responsive means	201.6	...Based on triangulation
373	..With means to transmission-test contained fluent material	201.7	...Based on contrast
374	..Including a radiant energy responsive gas discharge device	201.8	...Based on image shift
375	..Methods	201.9	..Light beam wavefront phase adaptation
376	..With electroscopic indicators	203.1	..Following a target (e.g., a star or instrument pointer or other object) other than a pattern
377	...With charge generator	203.2	...Target illuminated by artificial light source
378	...With charge storage means		
379	..With means to supply the gas		
380	...Radioactive gas, or with gas-borne radioactive material		

203.3	...Self-luminous target	559.24	...Transversal measurement (e.g., width, diameter, cross-sectional area)
203.4	....Sun	559.25	....Lumber
203.5	....Cathode-ray tube scanning	559.26	...Longitudinal measurement (e.g., length or spacing)
203.6	....Airborne target, or spaceborne target other than the sun (e.g., star or missile)	559.27	...Thickness
203.7	....With moving reticle in optical path	559.28	....With translucent material
202	..Following a pattern (e.g., line or edge)	559.29	..Measuring position
548	..Controlling web, strand, strip, or sheet	559.3	...With alignment detection
549	..Cathode-ray tube	559.31	...With triangulation
204	..Adjusting optical system to balance brightness in plural paths	559.32	...Measuring rate of motion or flow (change of position)
205	..Controlling light source intensity	559.33	...With robotics
550	..Interference pattern analysis (e.g., spatial filtering or holography)	559.34	...Lead or wire bond inspection
551	..Signal isolator	559.35	...Centroid
552	..Solid state light source	559.36	...Edge
553	..Array or matrix	559.37	...Angular orientation (e.g., skew)
554	..Flame light source	559.38	...Determining range from detector
559.01	..With circuit for evaluating a web, strand, strip, or sheet	559.39	..With comparison to reference or standard
559.02	..Evaluation of photographic film	559.4	..With indication of presence of material or feature
559.03	..Sequential detector arrangement	559.41	...With foreign particle discrimination circuitry
559.04	..Evaluation by regions, zones, or pixels	559.42	...Discontinuity detection (e.g., hole, crack)
559.05	...With imaging	559.43	...Break detection
559.06	...With scanning	559.44	...Identifying marking, pattern, or indicia
559.07	..With imaging	559.45	...With defect discrimination circuitry
559.08	...With camera	559.46	....With camera or plural detectors
559.09	..With polarization	559.47	....With counting means
559.1	..With calibration	559.48	....With transversal scan
559.11	..Detection of both reflected and transmitted light	559.49	....With moving reflector
559.12	..Beam interruption or shadow	206	..Photocell controlled circuit
559.13	...With laser source	206.1	..Having means to generate positional information in at least one plane of a target moving relative to one or more photodetectors
559.14	...With rotation of material	206.2	...Detection of positional information in two or more planes (e.g., azimuth and elevation; hour angle and declination)
559.15	...With plural detectors	206.3	....With moving reticle in optical path
559.16	..Detection of diffuse light	555	..Including coded record
559.17	...With diffusion optics	556	...Document verification or graph reader
559.18	...With discrimination of discrete light diffusing region		
559.19	..Measuring dimensions		
559.2	...With comparison to reference or standard		
559.21	...Volume		
559.22	...Profile		
559.23	....With triangulation		

557	...With means to position, direct, or detect record	227.14	...Condition responsive light guide (e.g., light guide is physically affected by parameter sensed which results in light conveyed to the photocell)
558	..Stereoplotters	227.15	...With detection of macroscopic break in fiber
564	..With circuit for evaluating a fluent material	227.16	...With detection of fiber microbend caused by parameter affecting fiber
565	...With comparison	227.17	...Causing polarization change in fiber
207	..Electron multiplier	227.18	...Causing light spectral frequency/wavelength change
208.1	..Plural photosensitive image detecting element arrays	227.19	...With coherent interferometric light
208.2	..Plural photosensitive nonimage detecting elements	227.2	...With imaging
208.3	...With electronic scanning	227.21	...With light chopping or modulation
208.4	...Used to switch an electrical circuit or device on or off	227.22	...Keyboard or other manual switch controlled
208.5	...With photodetector output ratioing other than by bridge or push-pull circuits	227.23	...With spectral frequency/wavelength discrimination
208.6	...With specific relative positional geometry of photosensitive elements (e.g., an annular photosensitive element surrounding a coaxially mounted photosensitive element)	227.24	...With coupling enhancement means
210	..Bridge and push-pull circuits	227.25	...Fluid coupling
214 R	..Special photocell or electron tube circuits	227.26	...With scanning
214 P	...Photographic control	227.27	...With coherent interferometric light
214 D	...Light dimmers	227.28	...With specific configuration of light conductor components with respect to each other
214 A	...Amplifier type	227.29	...With specific illumination or viewing orientation of light conductor relative to viewed object (e.g., light normal to, and detector at 45 degree angle to, viewed object)
214 LA	....Light amplifier type	227.3	...With variable orientation of light conductor relative to viewed object (e.g., goniometer)
214 LS	.....Switching type	227.31	...Side or edge illuminated light conductor or collector
214 VT	.....Vacuum tube type	227.32	...End illuminated light conductor with noncircular geometric cross section
214 PR	...Photosensitive rheostat type	566	..Including coded record
214 SG	...Self-generating type	568	...Digital information
214.1	...Special photocell	569	....Card type
214 AG	...Automatic gain control	570	....Tape, drum, or disc types
214 AL	...Ambient light responsive	573	..Fluent material in optical path
214 B	...Ambient light desensitizing means	574	...Scattered or reflected light
214 C	...Compensation	575	...Plural paths
214 DC	...Digital circuitry		
214 L	...Logarithmic/linear signal		
214 RC	...Rate of change		
214 SF	...Slave flash		
214 SW	...Electronic switch		
215	..Combined with diverse-type device		
216	..Optical or pre-photocell system		
227.11	...Light conductor		
227.12	...Optical delay line		
227.13	...Light pen		

576	...Sample holder or supply	239	.Housings (in addition to cell casing)
577	...Volume or level		
221	..Controlled by article, person, or animal	396 R	WITH CHARGED PARTICLE BEAM DEFLECTION OR FOCUSING
222.1	...Inanimate article	397	.With detector
222.2	....Particle detection	398	.With target means
223 R	....Conveyor or chute	399	..Secondary emissive type
223 B	.....Bottles	400	..With means to convey or guide the target
224	....Article and light ray relatively moved during sensing	396 ML	.Magnetic lens
225	..Polarizing	423 R	ION GENERATION
226	..Color (e.g., filter or spectroscopy)	424	.Methods
228	..Integrating sphere	425	.With sample vaporizing means
229	..Light valve (e.g., iris diaphragm)	426	.Arc type
231.1	...Actuated by dynamic external physical quantity	427	.Electron bombardment type
231.11	....Actuated by gauge element deflection	423 P	.Photoionization type
231.12	....Gyroscopes	423 F	.Field ionization type
231.13	....Shaft angle transducers	428	FLUENT MATERIAL CONTAINMENT, SUPPORT OR TRANSFER MEANS
231.14	.....Incremental shaft readers; i.e., with means to generate increments of angular shaft rotation	429	.With temperature control
231.15	.....With plural gear driven discs	430	.With valve or pump actuator
231.16	.....Using phase difference of output signals from plural photodetectors	431	.With cleaning means
231.17	.....With means to indicate a complete shaft rotation	432 R	.With irradiating source or radiating fluent material
231.18	.....Position indicating shaft encoders with means to generate a unique signal for each specific angular shaft position	433	..Including a movable surface transfer means
231.19	....Pressure-responsive light valves	434	..Including a gravity-type transfer means
230	..Reflection type(e.g., mirror galvanometer)	435	..Including a flowthrough transfer means
232	...Light chopper type	436	...Flow-enclosed radiation source
233	....Rotary	437	...Tortuous path type
578.1	..Plural light sources or optical paths	438	...With a flow-modifying surface
234	..Means for moving optical system	432 PD	..Parent-daughter isotope separators
235	...Repetitious path	453.11	SUPPORTED FOR NONSIGNALLING OBJECTS OF IRRADIATION (E.G., WITH CONVEYOR MEANS)
236	....Rotary motion	454.11	.With source support
237 R	..Hoods, grating, baffles, diaphragms, masks	455.11	..Source and object encasement (e.g., sterilizers)
237 G	...Gratings (moire fringes)	458.1	LUMINOPHOR IRRADIATION
238	.Temperature control of photocell	459.1	.Methods
		461.1	.With ultraviolet source
		461.2	..Biological cell identification
		462.1	.Self-luminous article
		463.1	..Dials, pointers, gauges, and bands
		464.1	..Pendants
		465.1	..Manual operators or luminous attachments therefor
		466.1	..Covers, keys, or luminous attachments therefor

467.1 ..Reticles, gun sights or with optical element

472.1 **INVISIBLE RADIATION RESPONSIVE NONELECTRIC SIGNALLING**

473.1 ..Methods

474.1 ..Optical change type

475.2 ..Photographic type

482.1 ..With radiation filter, modifier, or shield (e.g., dosimeter badges)

483.1 ..Luminescent device

484.2 ..Requiring an additional energy source to cause luminescence

484.3 ...With thermally-stimulated phosphor

484.4 ...With optically-stimulated phosphor

484.5Dosimeter

485.1 ..With light excluding casing having an aperture

486.1 ..With plural luminescent material or plural luminescent containing layers or areas

487.1 ..With optical member of material to directly modify luminous energy

488.1 ...Plural planar layer type

489 **ION COLLECTORS**

491.1 **MEANS TO ALIGN OR POSITION AN OBJECT RELATIVE TO A SOURCE OR DETECTOR**

492.1 **IRRADIATION OF OBJECTS OR MATERIAL**

492.2 ..Irradiation of semiconductor devices

492.21 ..Ion bombardment

492.22 ..Pattern control

492.23 ..Variable beam

492.24 ..Photocathode projection

492.3 ..Ion or electron beam irradiation

493.1 **RADIANT ENERGY GENERATION AND SOURCES**

494.1 ..Plural radiation sources

495.1 ..Including an infrared source

496.1 ..With container for radioactive source and radiation directing or selectable shielding

497.1 ..With means to move source between shielded and unshielded position

498.1 ..With pivoted or rotatable radiation shield

503.1 ..With radiation modifying member

504 R ..Ultraviolet or infrared source

504 H ...Hand-held

505.1 **RADIATION CONTROLLING MEANS**

506.1 ..Shielded receptacles for radioactive sources

507.1 ..Having plural storage compartments or plural nested receptacles

515.1 ..Shields

516.1 ..Garments

517.1 ..Construction elements or building parts

518.1 ..With neutron absorption material

519.1 ..Flexible

522.1 **SOURCE SUPPORTS**

526 **MISCELLANEOUS**

CROSS-REFERENCE ART COLLECTIONS

900 **OPTICAL LIQUID LEVEL SENSORS**

901 ..With gap between light guide elements (includes open light path preset)

902 ..With closed light path preset

903 ...With prism contacting liquid

904 ..With single light guide element to guide light in a continuous path

905 ..With longitudinal irregularity

906 ...With large scale longitudinal bend

907 ...With portions of light guide coating or cladding removed

908 ...With waveguide twisted about its longitudinal axis

909 **METHODS AND APPARATUS ANCILLARY TO STIMULABLE PHOSPHOR SYSTEMS**

910 **FOOD SAMPLE ANALYSIS USING INVISIBLE RADIANT ENERGY SOURCE**

FOREIGN ART COLLECTIONS

FOR 000 **CLASS-RELATED FOREIGN DOCUMENTS**

DIGESTS

DIG 1 **PASSIVE INTRUSION DETECTORS**

DIG 2 **RADON DETECTION**

